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ABSTRACT

The Montana Training for Inclusive Education (TIE) Project provided awareness, information, and preparation to school teams of general and special teachers, administrators, paraeducators, and parents working to include students with disabilities in general education settings. The project offered continuing education opportunities for five tiers of educational teams from rural schools throughout Montana via workshops delivered by interactive television. Workshop content addressed inclusion strategies and teaming. A final evaluation compared attitudes toward inclusion and collaboration in 31 participating schools and 32 matching non-participating schools. Questionnaires on inclusion and collaboration were completed by 272 teachers in the TIE group and 223 teachers in the control group. Results indicated that in the areas of preparation that were in teachers' control, attitudes of TIE participants were positive. There were significant differences between the two groups in attitudes toward teachers' ability to meet the needs of included students with disabilities. Overall, TIE participants and the matched group did not differ significantly in attitudes toward having other professional personnel working in their classrooms and observing their professional performance. (Contains 26 references) (TD)

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THE MONTANA TRAINING FOR INCLUSIVE EDUCATION (TIE) FINAL EVALUATION

Abstract

The Montana Training for Inclusive Project had as its purpose providing awareness, information, and preparation to school teams for including students with disabilities in general education settings. Federally funded from the 1994/95 school year through 1998/99, the project offered continuing education opportunities for five tiers of educational teams from rural schools throughout the state of Montana. Formative evaluation focused on the interactive television (ITV) continuing education sessions. The final evaluation assessed attitudes toward inclusion and collaboration in TIE schools as compared with non-TIE participants matched on the basis of student demographics, size, and location of schools. Results of statistical analyses indicate that on items addressed by the preparation sessions and over which teachers have some control, TIE participants demonstrated more positive attitudes toward inclusion than did members of the comparison group.

Training for Inclusive Education: The Montana TIE Project

Background

The Montana Training for inclusive Education (TIE) Project was designed to increase opportunities for students with disabilities to be educated in general education classrooms. Federally funded from the 1994/95 school year through 1998/99, the project offered continuing education opportunities for five tiers of educational teams from rural schools throughout the state of Montana. Continuing education for cooperative learning and inclusion strategies, and development of team building, collaboration, and peer coaching skills provided participants with awareness, information, and preparation needed to implement inclusive educational practice. In the spring of 1993, the Montana Office of Public Instruction (OPI), Division of Special Education Comprehensive System of Personnel Development (CSPD) conducted its biennial needs assessment. Information and preparation on the roles and responsibilities for Inclusion emerged as the respondents' highest need. The third priority need was preparation for collaboration, consultation, and co-teaching. Project TIE proposed to address both priority areas.

Inclusive Educational Practice

The passage of the Education of the Handicapped Act (EHA) in 1975 mandated providing special educational services for students with disabilities. In the more than 20 years since, such special services have often meant that students with disabilities are segregated from their non-disabled peers even though the original law and its many re-authorizations have also mandated that students with disabilities be educated in the Least Restrictive Environment (LRE). For students to realize mainstreaming, however, has usually meant that they are "guilty until proven innocent". They have had to prove their ability to participate with their peers. IDEA-97, the most recent re-authorization of special education law, strengthened the LRE concept by using the word "included" in several places, most notably, that students with disabilities should be included in state and district assessments and that they should have equal access to the general education curriculum.

Inclusion means providing opportunities for students with disabilities to attend school with their non-disabled peers and to participate as fully as possible in the educational process within general education classrooms. Inclusion means that students are "innocent until proven guilty" in the best American jurisprudential sense. A student with whatever abilities or disabilities should be educated with their peers and be separated only for limited periods of time for specific purposes. The concept grew from the Regular Education Initiative (REI), a phrase coined by Madeline Will in 1986 when she served as Assistant Secretary of the Department of Education (DOE) with executive director responsibilities for the Office of Special Education and Rehabilitation Services (OSERS). The Assistant Secretary proposed that students with mild learning disabilities needing less intensive interventions should be educated entirely in the mainstream of education. Quickly embraced by special educators and parents of students with special education needs, the idea was extended to all students regardless of the type or severity of their disability.

The Association for Supervision and Curriculum Development (ASCD) devoted an entire issue of their journal, *Educational Leadership* (1994/95), to the inclusive school. Articles in that issue provided position statements, strategies, and research related to Inclusion. Baker, Wang, and Walberg reviewed three meta-analyses of educational literature addressing the most effective setting for children with disabilities. Effect sizes evidenced small to moderate benefit of inclusive education on the academic and social outcomes of the children. Rarely showing negative effects, there was considerable evidence that segregation was actually deleterious to academic performance and social adjustment. Staub and Peck reviewed research addressing the three most common concerns with regard to effects of Inclusion on non-disabled students:

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- Will inclusion reduce the academic progress of non-disabled children?
- Will non-disabled children lose teacher time and attention?
- Will non-disabled students learn undesirable behavior?

While there was little to support these concerns, there was support for the potential benefits of inclusion:

- Reduced fear of human differences with increased comfort and awareness.
- Growth in social cognition
- Improved self-concept
- Development of personal principles
- Warm and caring friendships.

A second issue of the journal (*Educational Leadership*, 1996) provided strategies for working with students with special needs. Slavin suggested preventing learning disabilities to begin with; Graves, Graves, and Braaten provided pre-, during-, and post-reading activities to scaffold reading experiences in inclusive classrooms. Armstrong proposed an hoslistic approach for addressing ADD/ADHD that would include cognitive, ecological, physical, emotional, behavioral, and social, as well as, educational factors. Giangreco outlined a teacher's guide with ten strategies toward including students with disabilities:

- Get help from friends
- Welcome the student onto your classroom
- Be the teacher for all students
- Make sure everyone belongs to the classroom community
- Clarify shared expectations with team members
- Adapt activities for student needs
- Provide active/participatory learning experiences
- Adapt the classroom arrangement, materials, and strategies
- Secure help from support services
- Continually evaluate your teaching.

Even with research demonstrating the benefits of Inclusion and lists of suggestions for implementing inclusive educational practice, educator attitudes have remained less than positive. Cook, Tankersley, Cook and Landrum (2000) examined the attitudinal categories of attachment, concern, indifference, and rejection related to teacher attitudes toward their students with disabilities. Students with disabilities were under represented in the attachment category and over represented in the concern and rejection categories. As teachers gained experience with the students, they exhibited more concern. The authors suggested that a strategy for improving attitudes and teacher–student interactions might be to place students with disabilities in general education classrooms of teachers with previous positive experiences.

Salisbury and McGregor (2002) studied the characteristics of administrators and schools that successfully included students with disabilities. They found commonalities in leadership practices, consistent patterns in climate indices, and a range of administrative strategies. Principals tended to be supportive rather than directive or restrictive. Teachers demonstrated collegiality and friendliness as opposed to being disengaged. Principals were self-directed, invested in relationships, accessible, reflective, collaborative, and intentional. The combinations of these factors resulted in a school that was supportive of teachers' efforts, friendly toward students, and purposeful in continuing efforts to practice Inclusion.

Figure 1 Responsible Inclusion.

INCLUSIVE EDUCATIONAL PRACTICE

INCLUSION *IS*	INCLUSION *IS NOT*
All Students	Placement By Category
Special Assistance as Needed	Once in Resource, Always in Resource
Natural Proportions	All Special Needs Students in One Class
Differing Expectations for Individuals	Expecting All Students to Achieve Similarly in the Standard Curricula
Appropriate Class Size	30 Students, 1 Teacher, Ability Extremes
Team Approach	1 Teacher, Alone, Meeting Student Needs
Resources and Supports	Lack of Necessary Services, $$, Materials
Continuing Education Opportunities	Unprepared Teachers Responsible for All
Ongoing Technical Assistance	*One-time Workshopwith No Follow-up*

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Collaboration for Inclusion

TIE participants enrolled as school teams for several reasons. *First*, for Inclusion to be successful, all members of the educational community need to work together to provide wrap-around services for students. One teacher alone in a classroom cannot hope to accommodate the educational needs of 20 to 30 students exhibiting a wide range of academic ability, physical skill, and behavioral appropriateness. Inclusion demands a team effort with on-going support for the teacher. Figure 1 contrasts responsible Inclusion with educational "dumping" that is often called Inclusion and so gives the practice its bad name. *Second*, recognizing their need to work as educational teams, Montana teachers and administrators at all levels—pre-K through higher education—responded to the CSPD survey with their need for preparation in this area. *Third*, federal special education law mandates that students with disabilities be assessed by a multi-disciplinary team, that their Individual Education Programs (IEPs) be developed by a team, and that they receive services from teachers and related services personnel as necessary. Professional collaboration is mandated by IDEA-97.

Volumes have been written to guide professionals in their efforts to collaborate. An early text by Idol, Paolucci-Whitcomb, and Nevin (1987) described "collaborative consultation" as a triangular process through which consultant (special educator) guides consultee (regular teacher) in meeting the needs of their client (student). Similarly, Sugai and Tindal (1993) provided a guide for effective school consultation by special educators. Joyce and Weil (1996) outline a process of peer coaching as teachers help each other to implement different models of teaching. *Educational Leadership* (1996) devoted an issue to improving professional performance through coaching. Garmstson (1987) suggested technical, collegial, and problem-solving as reasons for professional coaching. Morsink, Thomas and Correa (1991) addressed interactive teaming for special education. Similarly, Dettmer, Thurston, and Dyck (2002) address consultation, collaboration, and teamwork for students with disabilities. Fishbaugh (1997) provided a schema that differentiates among consultation, coaching, and teaming as different models of collaboration along a continuum of practice.

Some authors guide professionals with skill development for collaborative practice. Friend and Cook (1996) begin with collaboration fundamentals, address applications, and emphasize communication and problem-solving skills as essential for successful collaboration. Johnson, Pugach, and Cook (1993) structure professional coaching into initiator/facilitator dyads that follow a specified sequence for problem solving. Cramer (1998) provides the following steps for successfully implementing collaboration:

- Evaluate the current situation
- Develop a collaboration strategy
- Design a plan for change
- Evaluate the plan
- Sum-up outcomes
- Generalize the plan with other professionals, the students, and their caregivers

Fishbaugh (2000) has developed a collaboration guide for early career educators that includes information and guidance with regard to mentoring, clinically observing performance, working with diverse constituencies, and communicating to solve problems.

Project TIE enrolled educational teams from rural schools throughout Montana. The teams included general and special teachers, the school administrator, paraeducators, and parents. Over a five-year project period, five different Tiers of teams participated in workshops addressing awareness, information, and strategies for including students and for working as team members. TIE presenters delivered the workshops through interactive television (ITV). Based on formative evaluation of the workshops (Fishbaugh & Rose, 1995-98), format and content were adjusted with each Tier to provide optimal preparation for Inclusion. The present paper reports the results of the final project evaluation addressing participant attitudes toward Inclusion and Collaboration.

TIE Workshops

The TIE project had two goals: (a) to prepare teachers with cooperative learning and inclusion strategies, and (b) to promote team building and coaching. Tier I began TIE preparation with an on-site conference, the Diversity Leadership Institute. Held in January, the 18 Tier I (1994/95) teams came together to meet and begin developing an awareness of inclusive educational practice. Teams represented small schools from the five CSPD regions in the state—Eastern Montana, North Central, South Central, Southwest, and Northwest. Five workshops following the Institute were conducted over the MetNet ITV system and addressed the following topics:

- Cooperative Learning Strategies I (February)
- Peer Coaching and Team Building I (March)
- Cooperative Learning Strategies II (April)
- Peer Coaching and Team Building II (May)
- Team Building and Problem Solving (September)

The second year TIE teams, Tier II (1995/96) began their project participation in November with the initial Institute. Eleven new teams met with the original 18 teams who shared their beginning Inclusion experiences. The nine teams represented both small rural schools and larger town schools from Eastern, Central, and Western regions of the state. Tier II ITV workshops included the following topics:

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- Cooperative Learning Strategies (Feb)
- Peer Coaching and Team Building I (March)
- Addressing Problem Behavior (March)
- Peer Coaching and Team Building II (April)
- Strategic Instruction and the Democratic School (May)

Tier III (1996/97) TIE teams represented Eastern and Central Montana. All but one team came from small rural communities. The third Inclusive Education Conference was held in November. Although the focus was on new team information and development, previous teams were encouraged to attend as mentors and for support. Tier III began their MetNet workshops in January and continued through spring semester 1997 with the following topics:

- Educating All Children (January)
- Collaboration (February)
- Positive Approaches to Challenging Behavior (March)
- Supportive Cultures (April)
- Instructional Strategies and Teams (September)

TIER IV (1997/98) attended the initial conference in December. The remainder of their workshops addressed the following topics:

- Educating All Children (January)
- Collaboration (February
- Positive Behavioral Supports (March)
- IEP Goals, and Para/Peer Support (April)
- Strategies Sharing (September)

Throughout the project, workshop topics addressed the two project goals of inclusion strategies and teaming. Specifics of the workshop content evolved over the course of the project based upon on-going formative evaluation and previous Tiers' experience. Although not of statistical significance, formative evaluation data trends were positive as workshop format and content were adjusted to accommodate participant needs. No data are available for TIER V. It was during the final year of the project that the final evaluation was implemented.

Method

Participants and Procedure

In order to assess outcomes of TIE at the end of the project's five-year funding cycle, attitudes toward Inclusion and Collaboration in the participating schools were contrasted with matching non-participating schools. Over the first four years of the project, 49 Montana schools attended the initial on-site Institutes/Conferences and participated in distance education via ITV. These schools were matched with schools similar in student population, student demographics, and school location (e.g., small town, rural, remote).

School personnel completed The Questionnaire on Inclusion and the Questionnaire on Collaboration, both described below. This was a mail-based survey. The two surveys with scan-tron answer forms and return, self-addressed envelopes were sent to participant schools and their matches. Initial mailing took place in October. The final returns were received in February. Data analyses, planned for May, were delayed due to changes in equipment and hardware. These changes forced the re-recording of responses on new forms and computer data entry, rather than scan-tron machine analysis as originally planned. Factor analyses were performed on both surveys. T-tests compared factor responses between participants and matches.

Of the 49 TIE schools, 31 (63%) returned questionnaires—Tier I-9 schools, Tier II-6 schools, Tier III-9 schools, Tier IV-7 schools. Of the matches, 32 schools (65%) returned questionnaires—Match I-12 schools, Match II-6 schools, Match III-7 schools, Match IV-7 schools. Of the returns, 495 individual responses were usable.

Instrumentation, Data Analysis, and Results

Questionnaire on Inclusion. The instrument used to measure regular education teacher attitudes toward inclusion was the Hudson, Graham, and Warner (1979) Questionnaire on Inclusion. Minor changes were made to the language in this survey to reflect the evolutionary changes in special education terminology. For example, the survey originally used the term "mainstreaming," and the word "inclusion" was substituted throughout. This survey instrument was selected because it purports to address six important features of inclusion—overall attitude, perceptions of time, materials, skills, support services, and need for additional preparation. To ensure that this survey addressed current issues of inclusion for children with special needs in the regular classroom, professionals in the field were asked to provide a peer review for relevance to present day issues and question clarity. Reviewers supported the current salience of the features identified above for regular education teachers, and considered this questionnaire to be appropriate for the intended purpose of this research. The instrument has been reviewed (Horner, 1980) and found to demonstrate adequate reliability as well as content and construct validity.

Hudson, et al. (1979) provided the following description of their scale:

> A 28-item questionnaire was designed to measure six categories of teacher attitudes and needs in relation to teaching mainstreamed exceptional children. Initially 36 Likert-type items were constructed.

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Five experts, working independently, categorized each item as belonging to one of six categories. Only those items which were categorized identically by four of the five experts were retained for statistical analysis. The six categories were attitudes, time, materials, skills, support services, and training. The categories contained 6, 4, 3, 8, 3, and 4 items, respectively. The questionnaire evidenced content and construct validity. Overall, correlations between an item and the mean score for the category to which the item belonged were higher than correlations between the respective item and the total score on the questionnaire. Furthermore, the means of items within a category were highly similar. The split-half (odd-even) reliability of the instrument was high (r= .80). Thus, the questionnaire appears to be sensitive to the attitudes and perceptions of regular classroom teachers with regard to mainstreaming exceptional children (p. 59).

The survey uses a five-point, Likert-type format wherein the respondents rate level of agreement with the 28 statements. On the original survey, a score of "1" on an item indicated strongest agreement with the item. For present use, the scale was reversed, thus a score of "5" indicated "strongly agree." For the purposes of this study, agreement with Items 1 through 23 was considered to reflect a positive attitude toward inclusion, so the higher scores were given for agreement. Items 24 through 28 are written such that agreement with the items indicates a negative attitude, so the lower scores were given for agreement with the last five items on the survey.

Table 1 Questionnaire on Inclusion Factor Analysis
Rotated Component Matrix(a)

	Component			
	1	2	3	4
Q1	.688	.197	.055	.097
Q2	.587	.199	.177	.006
Q3	.660	.149	.081	.114
Q4	.607	.135	.063	.056
Q5	.658	.273	.045	.055
Q6	.735	.218	.094	-.026
Q7	.562	.035	.483	-.043
Q8	.588	.103	.507	.008
Q9	.664	.126	.394	.055
Q10	.564	.055	.511	.099
Q11	.350	.497	.220	-.042
Q12	.193	.235	.614	.049
Q13	.104	.408	.568	.061
Q14	-.043	.632	.084	.161
Q15	.320	.657	.196	.207
Q16	.362	.665	.187	.064
Q17	.205	.690	.068	-.095
Q18	.142	.803	.066	.091
Q19	.264	.676	.179	.067
Q20	.375	.562	.032	.087
Q21	.023	.590	.223	.177
Q22	.096	.169	.689	.069
Q23	.104	.103	.740	.101
Q24	.335	.070	.374	.410
Q25	.014	.035	-.010	.745
Q26	.209	.258	.142	.684
Q27	.202	.287	.148	.745
Q28	-.147	-.036	.006	.751

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

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The sample size of 272 for the TIE group and 223 for the matched control group provides an adequate basis for these analyses. Data were analyzed using S.P.S.S. Based upon this sample size (495), the loadings were nearly all at or above the moderately significant range (Hair, Anderson, Tatham & Black, 1998), for practical and also for statistical significance (alpha .05). Examination of the correlation matrix revealed that more than 60% of the correlations were significant at the .05 level.

Table 1 presents six possible factors that were identified based upon eigenvalues >1. Indeed, as many as eleven factors could have been extracted. However, the model began to lose salience in terms of data reduction as well as weakened the ability to define an underlying structure among the variables. After Varimax rotation, examination of the variables in those factors suggested that a more parsimonious model based upon four components would have greater practical significance. Thus four factors were extracted, reflecting the most parsimonious representative analysis of the components, and together, those components account for 53.5% of the cumulative variance.

Questions 1 through 10 loaded on factor one. This factor appears to reflect the teachers' ability to effectively meet the needs of all students in the regular education classroom. It includes attitudes about teachers' willingness to include a student with disabilities in their classroom, about teachers' ability (including time) to effectively teach all students, about whether the presence of this student would be detrimental to the others in the classroom, and finally about whether greater academic benefit would result for the included student from this placement.

Not surprisingly, this component is the only one affected by T.I.E. preparation. Independent -samples T tests were conducted between the treatment and matched groups for each of the four identified factors. The Levine's Test for Equality of Variances were not significant, suggesting that the variances across the groups are homogeneous, and equal variances were assumed. The mean of the treatment group (Table 2) was significantly higher (m = 26.08, sd = 8.027) than the matched control group (m = 24.46, sd = 8.544). Factor one resulted in t = -2.175; df = 493; significant at .05 confidence interval (p = .030).

Factor two reflects the teachers' attitudes about whether they have the specific skills necessary to teach the student with disabilities. This component includes items 11, 14, 15, 16, and 17-21. These items include the ability to identify students with disabilities, interpret assessments, identify learning needs, individualize instruction, adapt instructional materials, and manage behavior. The t test between the treatment and matched control group resulted in t = -1.83; df = 493; not significant.

The third factor includes items 12, 13, 22 and 23. These relate to attitudes about resources and supports available to teachers, and include identification and present availability of instructional materials, as well as support from resource teachers, consultants, paraeducators, psychologists, and social workers. The t test for this component was as follows: t = -1.70; df 493; not significant.

Table 2. Questionnaire on Inclusion Factors' t-test.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FACTOR1	Equal variances assumed	1.813	.179	-2.175	493	.030	-1.62	.747	-3.090	-.157
	Equal variances not assumed			-2.161	461.537	.031	-1.62	.751	-3.100	-.147
FACTOR2	Equal variances assumed	2.454	.118	-1.483	493	.139	-.99	.669	-2.305	.322
	Equal variances not assumed			-1.475	462.733	.141	-.99	.672	-2.313	.330
FACTOR3	Equal variances assumed	.145	.703	-1.170	493	.242	-.55	.472	-1.480	.375
	Equal variances not assumed			-1.168	470.398	.243	-.55	.473	-1.482	.377
FACTOR4	Equal variances assumed	3.117	.078	-1.288	493	.198	-.38	.298	-.970	.202
	Equal variances not assumed			-1.276	453.870	.203	-.38	.301	-.976	.208

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Table 3. Questionnaire on Collaboration Factor Analysis

	Component			
	1	2	3	4
Q1	.751	-.113	.012	-.004
Q2	-.064	.468	-.059	.198
Q3	-.530	-.128	-.068	-.024
Q4	.162	.087	.224	.529
Q5	.105	.054	.751	.108
Q6	-.009	.478	-.002	.570
Q7	.593	.270	.086	.293
Q8	-.052	.367	-.112	.662
Q9	.035	.156	.753	.064
Q10	.283	.255	.388	.171
Q11	-.003	-.141	.085	.680
Q12	.240	.616	.178	.173
Q13	.586	.255	.113	.036
Q14	.249	.149	.302	.368
Q15	.132	.732	.259	-.064
Q16	.515	.572	.215	.063
Q17	.162	.709	.116	.052
Q18	.580	.454	.158	.065
Q19	.649	-.056	.119	-.025
Q20	-.094	-.042	-.579	-.004

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.

The final component contains items 24 through 28 and reflects attitudes toward the need for additional support, preparation and continuing education as they relate to teaching students with disabilities in their classroom. Again, the t test was not significant, with t = -1.288; df 493.

Questionnaire on Collaboration. Based upon the focus of the preparation provided through the TIE project, a questionnaire was used to assess attitudes of teachers toward collaboration. Factor analysis was again used to identify a parsimonious model of collaboration, and four factors clearly emerged (Table 4). Once again, Levine's Test for Equality of Variances were not significant, suggesting homogeneity across groups, and supporting the assumption of equal variances.

Factor one focused on attitudes toward expected adverse classroom climate changes as a function of classroom observation. It reflects teacher fears of classroom observation, and how those fears would affect the classroom climate. It includes the tenseness that accompanies anticipated critical judgment, and the expected changes in student responses. Questions 1, 3, 7, 13, 18, and 19 fall within this factor.

The second factor reflects the view that, while it would be helpful to learn from other teachers, classroom observation is a primarily seen as a potentially punitive tool of administrative evaluation. It includes the expectation that asking for help and advice reflect teacher weakness. Questions 2, 12, 15, 16, and 17 load on this factor.

Factor three reflects a lack of specific experience with collaboration. Responding teachers knew little about other teachers' experiences, and other teachers knew little about the participating teacher's classroom situation. This lack of interaction was also reflected in respondents questioning why someone would even be coming into their room. Questions 5, 9 and 10 loaded on this factor.

The fourth factor reflects attitudes toward receptivity to observation and collaboration, including elements of feeling at ease with the process, welcoming suggestions/advice/conferencing from others, and expectations of a constructive outcome in terms of effective teaching. This factor included loadings from questions 4, 6, 8, 11, and 14. Not surprisingly, this is the factor that resulted in a close to significant t test (Table 4) for independent means between the treatment group (m = 18.95, sd = 3.285) and the matched control group (m =18.36, sd = 3.276). This difference was nearly significant at the .05 level (t (470) = -1.947, p = .052.

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Table 4. Questionnaire on Collaboration Factors' t-test.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FACTOR1	Equal variances assumed	.030	.863	-.713	464	.476	-.27	.378	-1.011	.473
	Equal variances not assumed			-.711	453.307	.477	-.27	.378	-1.013	.475
FACTOR2	Equal variances assumed	2.988	.085	-1.541	470	.124	-.49	.319	-1.120	.135
	Equal variances not assumed			-1.523	428.910	.128	-.49	.323	-1.128	.143
FACTOR3	Equal variances assumed	1.195	.275	.187	474	.852	.05	.250	-.445	.538
	Equal variances not assumed			.186	458.869	.852	.05	.251	-.446	.540
FACTOR4	Equal variances assumed	.036	.850	-1.947	470	.052	-.59	.303	-1.184	.006
	Equal variances not assumed			-1.947	461.762	.052	-.59	.303	-1.184	.005

In looking at differences between the groups on individual questions, the one question demonstrating a significant difference (< .05) was number 14. This question asked, "I feel at ease to ask fellow teachers to visit my classroom and solicit their advice." (Table 5) This test resulted in t (472) = .-2.60, p = .009.

Table 5. Questionnaire on Collaboration Items' t-test.

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
Q14	Equal variances assumed	8.498	.004	-2.607	472	.009	-.28	.107	-.487
	Equal variances not assumed			-2.585	442.060	.010	-.28	.107	-.489

Discussion

For successful inclusion of students with disabilities in regular education classrooms, teachers need to be prepared to meet the students' individual educational needs and they need to team with other school personnel. Project TIE had as its two main goals (a) increasing awareness, information and preparation of teachers for special educational needs, and (b) preparing teams for professional collaboration in its many forms. Formative evaluation of the project's continuing education throughout four of the project years demonstrated that refinement of content and method of presentation resulted in increasingly positive response from participants. Final evaluation focused on educator attitudes.

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Results of data analyses demonstrated that in the areas of preparation and that were in the teachers' control, attitudes of TIE participants were positive. The t-tests demonstrated significant differences in attitudes toward the ability to meet the needs of included students with disabilities between TIE participants and respondents in matched non-TIE schools. Attitudes do affect performance. Positive attitudes toward Inclusion have been shown to increase the probability that included students will be successful (Cook, Tankersley, Cook, & Landrum, 2000) and that the school will successfully implement inclusive education (Salisbury, & McGregor, 2002). Project TIE at least positively affected educational personnel attitudes toward their ability to include students.

Overall, differences between the TIE participants and the matched group in teacher attitudes toward having other professional personnel working in their classrooms and observing their professional performance did not reach statistical significance. Although introduced to collaborative teaching in the TIE workshops, participants did not have the advantage of peer support and coaching in their schools. Joyce and Weil (1996) stress the importance of ongoing peer support following any introduction to new ways of teaching if implementation is to be successful. McFaul and Cooper (1984) suggested that professional etiquette in the teaching profession, a traditionally isolating career, prevents honest dialogue aimed at improving professional performance. Teachers teach alone and are very respectful of each other's right to practice to the detriment of collaborative practice.

Several weaknesses in this study should be recognized. First, there was not a pre-project survey to assess attitudes before treatment. Personnel in schools that applied to participate in the project may have had more positive attitudes toward inclusive educational practice initially than personnel in schools that chose not to participate.

Second, the evaluation plan called for different sources of data to include the following:

- Formative data evaluating the preparatory workshops *(Implemented)*
- Formative data in the form of individual inclusion student case studies *(NOT implemented)*
- Formative data in the form of TIE team activity logs *(NOT implemented)*
- Summative data comparing state statistics regarding special education student inclusion *(Not implemented)*
- Summative data comparing teacher attitudes toward Inclusion and Collaboration *(Implemented)*

Due to lack of personnel and resources, much of the original evaluation plan was never realized.

Finally, no information with regard to teaching practice and student outcomes is available. Further research could focus on the TIE teachers' implementation of the strategies and on performance of students with disabilities. Such continuing research is well beyond the resource capabilities for this completed project.

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